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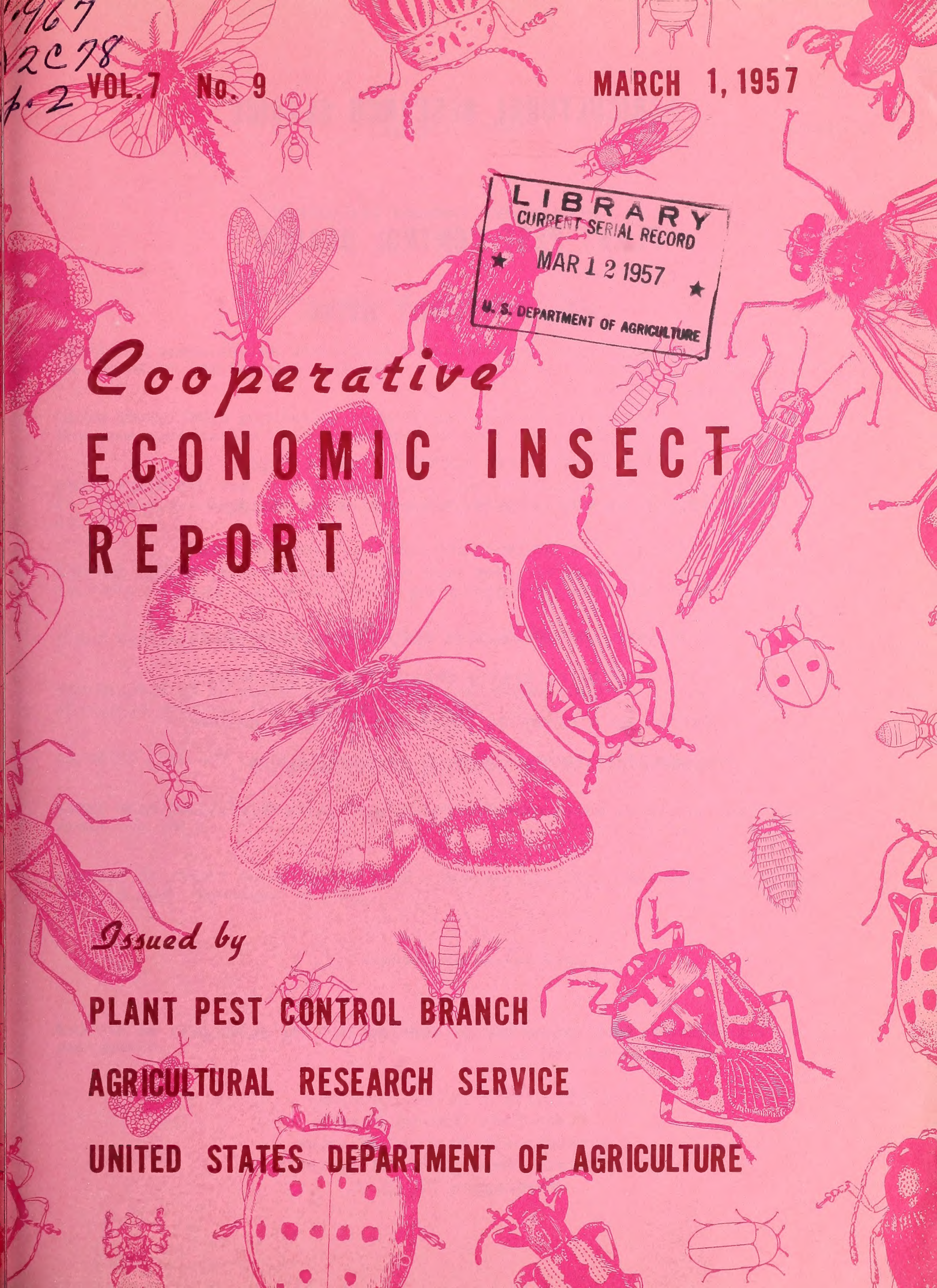

Cooperative ECONOMIC INSECT REPORT

Issued by

PLANT PEST CONTROL BRANCH

AGRICULTURAL RESEARCH SERVICE

UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL BRANCH

PLANT PEST SURVEY SECTION

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Branch serves as a clearing house and does not assume responsibility for accuracy of the material.

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Plant Pest Control Branch
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Volume 7 March 1, 1957 Number 9

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

PEA APHID appearing on alfalfa at Yuma, Arizona. Light populations reported in Louisiana and Georgia. (p.153).

GREEN PEACH APHID population high in orchards at The Dalles, Oregon. (p.154). Moderate infestation on tobacco beds in some Georgia areas. (p.153).

BEET LEAFHOPPER low at Yuma, Arizona; some concentrations in San Joaquin Valley, California and light to heavy in Zavala, Maverick and Dimmit Counties, Texas. (p.154).

CABBAGE LOOPER infestations earlier than usual in Charleston area, South Carolina. (p.154).

Brief statement on GYPSY MOTH program in Michigan. (p.155).

NEW RECORDS of an aphid (Myzus certus) for Oregon (p.156) and an ichneumonid (Biolysia tristis) for California. (p.157).

IMPORTED FIRE ANT reported abundant in many sections of Mississippi. (p.157).

LIGHT TRAP COLLECTIONS show cutworm and armyworm moths active in many southern areas. (p.157).

SUMMARY OF INSECT CONDITIONS - 1956 - Georgia (p.158), West Virginia (p.161), Iowa (p.164), Michigan (p.166).

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Reports in this issue are for the week ending February 22 unless otherwise designated.

WEATHER OF THE WEEK ENDING FEBRUARY 25, 1957

Early in the period welcoming light rains continued to fall on Texas and Oklahoma, and moderate to heavier falls over much of the Southeast. Again late in the period additional precipitation was being received in the southeastern section as another low center developed over the area. Weekly precipitation totals were moderate to heavy in the above mentioned sections as they also were in southeastern Utah, southwestern Colorado, northwestern New Mexico and northeastern Arizona. Elsewhere throughout the country precipitation generally was light. Moderate to heavy snowfalls were reported during the period in many of the Northern Plains States, and sleet, glaze, and freezing drizzle in parts of Oklahoma and Texas. Numerous low pressure centers in varied weather patterns were responsible for most of the featured events of the week's weather. Outstanding was the Pacific coastal storm which extended its influence over California, Oregon, Washington, and western portions of adjacent States from Friday night through Sunday. Excessive rains accompanying the storm caused rises in rivers with local flooding in northern California and winds with gusts reaching 50 to 60 miles per hour were responsible for considerable property damage in many sections and for some loss of life in Washington and California as trees toppled.

Extremely cold Arctic air extended its influence on the temperature conditions of the extreme Northwest and the central and southern Plain States early in the period, but over the weekend and on Monday warm mild weather prevailed over most of the Nation. In South Dakota where subzero minima were observed from Thursday through Saturday, the Sunday maximum recorded at Huron was 61°. On Monday Columbus, Ohio, reported a maximum of 73°, the highest February temperature there in 78 years. Weekly averages were near seasonal to as much as 9° above normal in the Southwest and over most of the area east of the Mississippi River. Over the rest of the country they were below normal with north-central Montana averaging -19° for the week.

As of Monday morning the snow-covered area at lower elevations incorporated eastern portions of the Dakotas, most of Minnesota, the northern half of Wisconsin and northern sections of Michigan, New York, and New England. Current depths at some higher elevations in the West are 159 inches at Paradise Ranger Station, Washington; 87 inches at Crater Lake, Oregon; and 57 inches at Soda Springs, California.

Ice thickness reports this week include 20 inches at Duluth, Minnesota, and Alpena, Michigan; 22 inches at Escanaba, Michigan; 28 inches at Bismarck, North Dakota; 14 inches at Huron, South Dakota; and 27 inches at Greenville, Maine. (Summary Supplied by U.S. Weather Bureau).

CEREAL AND FORAGE INSECTS

GREENBUG (Toxoptera graminum) - LOUISIANA - Populations remain very light in small grains in Tensas, East Baton Rouge, St.Helena and Tangipahoa Parishes. (Oliver).

ARMYWORM (Pseudaletia unipuncta) - LOUISIANA - Small numbers continue to appear in small grains and grasses in East Baton Rouge, St. John the Baptist, St. Helena and Tangipahoa Parishes. (Oliver).

SPOTTED ALFALFA APHID - ARIZONA - Low populations on alfalfa in Yuma area and in Salt River Valley. Fungus disease previously reported still predominates in the Yuma Valley. (Ariz. Coop. Rept.). OKLAHOMA - Populations in central and north central counties low with ranges from an occasional aphid to approximately 1500 per square foot of alfalfa crown. (Coppock). GEORGIA - Infesting alfalfa in Sumter County at 54 per 100 sweeps. (Johnson).

PEA APHID (Macrosiphum pisi) - LOUISIANA - Light populations present in alfalfa in Tensas and East Baton Rouge Parishes and light to moderate in vetch and burclover in East Baton Rouge Parish. (Oliver). GEORGIA - Infesting alfalfa in Sumter County at 38 per 100 sweeps. (Johnson). ARIZONA - Beginning to appear on alfalfa at about 5 to 10 per 100 sweeps in the Yuma area. (Ariz. Coop. Rept.).

CLOVER LEAF WEEVIL (Hypera punctata) - TENNESSEE - Light damage to alfalfa some areas. (Mullett).

SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) - LOUISIANA - Light populations present in alfalfa in Tensas and East Baton Rouge Parishes. (Oliver).

EGYPTIAN ALFALFA WEEVIL (Hypera brunneipennis) - ARIZONA - Light larval infestation on alfalfa in the Mesa-Chandler area of Maricopa County, February 18. (Ariz. Coop. Rept.).

GLASSY CUTWORM (Crymodes devastator) - CALIFORNIA - Heavy infestation persists in seed fields of Merion bluegrass at Tehachapi, Kern County on February 14. Areas scattered throughout field killed. Treatments costing up to 75 dollars per acre have not given satisfactory control. (Cal. Coop. Rept.).

LUPINE INSECTS - SOUTH CAROLINA - Lupine in Barnwell, Bamberg, Allendale, Hampton, and Jasper Counties was injured and excessive loss of stands reported. Most plants damaged by lupine maggot (Hylemya lupini). Larvae of a weevil (Sitona explicita) were very numerous feeding on nitrogen nodules. Damage and loss most severe in third year plantings and progressively less in second and first year plantings. (Nettles).

FRUIT INSECTS

PECAN NUT CASEBEARER (Acrobasis caryae) - OKLAHOMA - Inspections of 715 pecan branch tips in four orchards for overwintering hibernacula in Okfuskee County were negative. (Coppock).

MEXICAN FRUIT FLY (Anastrepha ludens) - CALIFORNIA - Inspections of 1,102 traps in border area at San Ysidro were negative. Continuation of bait sprays in canyon areas east of San Ysidro and residential area in vicinity of Chula Vista and Imperial Beach. (Cal. Coop. Rept., Feb. 15).

SAN JOSE SCALE (Aspidiotus perniciosus) - OREGON - Becoming increasingly abundant, especially in tops, on apple, peach and pear trees in Jackson County. (Gentner).

GREEN PEACH APHID (*Myzus persicae*) - OREGON - Population potential rather high at The Dalles. Egg population appearing in orchards where none have been seen for several years. The egg count in 5 orchards ranged from 42 to 2027 on from 233 to 351 buds per orchard. (Ellertson). Eggs rather scarce on peach trees in Jackson County. Few hatched, February 18. (Gentner).

PEAR PSYLLA (*Psylla pyricola*) - OREGON - Adults abundant on pear trees in Jackson County and beginning to oviposit, February 18. (Gentner).

TRUCK CROP INSECTS

BEET LEAFHOPPER (*Circulifer tenellus*) - ARIZONA - Very low populations in Yuma area. Practically none found in cantaloup fields. (Ariz. Coop. Rept.). CALIFORNIA - Winter vegetation developing well most areas west side of San Joaquin Valley which has resulted in some concentration of leafhopper populations. In Coalinga area, populations with egg development make it essential to begin control operations next week. (Cal. Coop. Rept., Feb. 15). TEXAS - Light to heavy widespread infestations on spinach and wild mustard in Zavala, Maverick and Dimmit Counties. Populations low in spinach fields near Crystal City and Eagle Pass; 68 per 50 sweeps in wild mustard near Crystal City. Nymphs also found in area. (Richardson).

A LEAFHOPPER (*Empoasca* sp.) - ARIZONA - Moderate numbers in sugar beet seed fields at Mesa. No damage apparent. Also found on beets, spinach and other crops. (Ariz. Coop. Rept.).

FLEA BEETLES - TEXAS - Heavy local populations on wild mustard in Zavala County. (Richardson).

SOUTHERN CORN ROOTWORM (*Diabrotica undecimpunctata howardi*) - LOUISIANA - Heavily infesting turnip roots in several acres of old turnips in St. John the Baptist Parish. (Oliver). FLORIDA - Adults averaging 1 per 20 onion stems of 500 inspected at Baker, Okaloosa County, February 7. (Dickinson).

APHIDS - TEXAS - Heavy infestation of *Rhopalosiphum pseudobrassicae* found in one field of turnips in Progresso area and *Brevicoryne brassicae* still a problem in cabbage and brussel sprouts in the lower Rio Grande Valley. (Wene, Deer). TENNESSEE - Light infestation of *Capitophorus* sp. found on strawberry plants in Knox County. (Mullett). SOUTH CAROLINA - Light to moderate infestations of *B. brassicae* with occasional heavily infested plants in commercial cabbage plantings in Charleston area. (Reid).

CABBAGE LOOPER (*Trichoplusia ni*) - TEXAS - Light to medium widespread infestations on spinach and cabbage in Zavala and Dimmit Counties. (Richardson). SOUTH CAROLINA - Light infestations some commercial cabbage in Charleston County and home garden lettuce in Dorchester County. Infestations earlier than usual. (Reid).

CUTWORMS - SOUTH CAROLINA - Causing moderate injury to few cabbage plantings in Charleston area. (Reid).

SOUTHERN POTATO WIREWORM (*Conoderus falli*) - SOUTH CAROLINA - Larval populations in potato fields in Charleston area generally higher than any winter since 1952. Populations averaged about 9 per square foot to the 6 inch depth in soil screening between November 1956 and January 1957. A relatively high degree of resistance has been acquired to chlordane and related insecticides. (Reid).

LETTUCE INSECTS - ARIZONA - Practically non-existent to date in Yume area. (Ariz. Coop. Rept.).

MELON FLY (*Dacus cucurbitae*) - CALIFORNIA - Total of 4,836 traps serviced during period ending February 15 in the Los Angeles County area. Total of 941 identifications were made; all negative. (Cal. Coop. Rept.).

A FALSE CHINCH BUG (*Nysius* sp.) - TEXAS - Heavy widespread populations on wild mustard in Zavala County. (Richardson).

SPIDER MITES - TEXAS - Light to medium local populations on spinach in Zavala County. (Richardson). Few fields of strawberries in lower Rio Grande Valley infested with *Tetranychus telarius*, *Tetranychus marianae* found on seedling tomatoes in San Benito area. (Wene, Deer). LOUISIANA - Strawberries are heavily infested in one field and lightly infesting several fields by *Tetranychus* spp. in Tangipahoa Parish. Control being applied. (Oliver).

BLACK CUTWORM (*Agrotis ypsilon*) - LOUISIANA - Causing some damage to strawberry plants in Tangipahoa Parish. (Oliver).

TOBACCO INSECTS

GREEN PEACH APHID (*Myzus persicae*) - GEORGIA - Moderate infestations on tobacco beds in Worth and Lanier Counties. (Johnson).

VEGETABLE WEEVIL (*Listroderes costirostris obliquus*) - GEORGIA - Infestations were light to moderate on tobacco beds in Worth, Cook, Clinch, Lanier, Ware and Coffee Counties. Heavy infestations in Tift and Tattnall Counties. (Johnson).

TOBACCO FLEA BEETLE (*Epitrix hirtipennis*) - GEORGIA - Light infestations in Worth, Cook, Ware, Clinch and Coffee Counties. Moderate infestations in Lanier and Tift Counties. Heavy infestations in Tattnall County. (Johnson).

COTTON INSECTS

PINK BOLLWORM (*Pectinophora gossypiella*) - OKLAHOMA - Inspection of 62 bolls from surface debris in Jackson County on February 11 showed 7 to be infested with 2 live and 12 dead larvae. (Federal-State PBW Program).

FOREST, ORNAMENTAL AND SHADE TREE INSECTS

GYPSY MOTH (*Porthetria dispar*) - MICHIGAN - Summary of control activities in 1956 report that total of 1,441,579 acres were surveyed with 4,942 traps. Only two adults were trapped in the State; one each in Eaton and Shiawassee Counties. Total of 221,230 acres were treated in 1954, 1955 and 1956. Approximately 10,000 acres will be treated in spring of 1957. (PPC - Area Progress Rept.).

TURPENTINE BEETLES - VIRGINIA - Continued active in scattered spots on Eastern Shore. (Vir. For. Pest Sur., Jan. Rept.).

EASTERN TENT CATERPILLAR (*Malacosoma americanum*) - GEORGIA - Moderate infestations on wild cherry throughout southern area. (Johnson, Morgan).

A ROOT COLLAR BORER (*Euzophera ostricolorella*) - VIRGINIA - Widespread and larvae active on 200 acres of yellowpoplar in Southhampton County and another 12 acres in Greenville. Active in Princess Anne County. (Vir. For. Pest. Sur., Jan. Rept.).

PINE WEBWORM (*Tetralopha robustella*) - VIRGINIA - Widespread through most of State during 1956. (Vir. For. Pest Sur., Jan. Rept.).

SCALE INSECTS - MISSISSIPPI - Eriococcus azaleae on azaleas (Murphy) and Fiorinia theae on camellias observed in Hinds County. (Hutchins). FLORIDA - Adults of F. theae averaging 200 per leaf on 2,000 inspected & Lepidosaphes camelliae averaging about 20 per leaf were collected on camellia south of Jacksonville in Duval County on January 23. (King). VIRGINIA - Heavy infestations of Unaspis euonymi on euonymus plants at Tappahannock. (Rowell, Crosby).

A LEAF ROLLER (Platynota stultana) - CALIFORNIA - Infestation medium on carnations at San Leandro, Alameda County, February 8. (Cal. Coop. Rept.).

JAPANESE BEETLE (Popillia japonica) - MICHIGAN - Total of 104 adults trapped in 8,142 traps located in State in 1956. Totals for each location were 96 in Detroit, 6 in Grand Rapids and 2 in Muskegon. Area treated around these traps was 157.5 acres. (PPC, Area Progress Rept.).

CYCLAMEN MITE (Steneotarsonemus pallidus) - OREGON - Five percent infestation of large planting of gloxinia found in a Eugene nursery on February 18. (Bock).

AN APHID (Myzus certus) - OREGON - Heavily infesting a five acre pansy field in Clackamas County on August 20. Probably a new record for Northwest U.S. Det. L. M. Russell. (Swenson).

INSECTS AFFECTING MAN AND ANIMALS

CATTLE GRUBS - OKLAHOMA - Counts on mature cows at El Reno averaged 0.68 grubs per animal. (Schomberg) . Counts on two year old cows in northern Osage County averaged 9 grubs per animal. (Codding). ARKANSAS - Examination of 95 yearling heifers in Washington County on February 21 averaged slightly over 1 grub per animal compared with 3.2 grubs on January 18. Of 79 dairy cattle examined on February 18 averaged 1 plus per animal as compared with 2.2 in mid-January. (Hunter, Lancaster). NORTH CAROLINA - Of 34 beef cattle examined at Raleigh none were infested. In a dairy herd of 42 cows in Raleigh area, 6 were found infested. Five had 1 grub each and the other 6 grubs. In group of heifers at dairy only 2 of 25 were infested with 1 grub each. (Jones). VIRGINIA - A herd of approximately 750 beef cattle in Warren County of which 105 were survey in February and 112 in January averaged 2.5 grubs per head as compared with 7.8 per head in 1956. (Turner, Morris).

STORED PRODUCTS INSECTS

STORED GRAIN INSECTS - OKLAHOMA - Twelve seed and feed establishments in north central area contained occasional light infestations of Indian-meal moth, saw-toothed grain beetle, confused flour beetle, red flour beetle, cadelle and dermestids. Medium to heavy infestations were found of dermestids and Indian-meal moth in 1 location each. A very heavy infestation of German cockraoch found 1 location. (Coppock). ARKANSAS - Of 242 rice bins examined in January in Stuttgart - Dewitt area; 32 were infested with one or more species of insects. The saw-toothed grain beetle was found in 8 bins, flour beetles (Tribolium spp.) in 8 bins, Angoumois grain moth in 2 bins, lesser grain borer in 1 bin and fungus beetles in 2 bins. (Rouse). MARYLAND - Heavy infestation of grain mites in dairy feed at Denton,Maryland. (U.Md., Ent. Dept.).

BENEFICIAL INSECTS

HONEY BEE (Apis mellifera) - OKLAHOMA - First pollen store for season being brought in from American elm at college apiary on February 14. (Bieberdorf).

AN ICHNEUMONID (*Biolysia tristis*) - CALIFORNIA - This parasite of clover leaf weevil, *Hypera punctata*, was collected for the first time in the West on December 12, 1956 near San Andreas, Calaveras County. Det. USNM. (Cal. Coop. Rept.).

LACEWINGS (*Chrysopa* sp.) - ARIZONA - Adults, about 5 to 10 per 100 sweeps, abundant in alfalfa at Yuma. (Ariz. Coop. Rept.).

MISCELLANEOUS INSECTS

IMPORTED FIRE ANT (*Solenopsis saevissima richteri*) - MISSISSIPPI - Abundant in many sections of the State. (Hutchins).

TERMITES - MARYLAND - Winged forms in church steeple in Accident. (U. Md., Ent. Dept.). VIRGINIA - Adults in basement of home in Orange County on February 12. (Estes, Morris).

BOXELDER BUG (*Leptocoris trivittatus*) - OKLAHOMA - Heavy infestation in farm home in southwest Pontotoc County. (Meharg). TENNESSEE - Large numbers over State throughout the winter. (Mullett).

CORRECTIONS and ADDITIONS

LIGHT TRAP COLLECTIONS: CEIR 7(7): 116 - SOUTH CAROLINA - Under *Prodenia ornithogalli*; Oconee County, number should read 10.
Insects Not Known to Occur in the United States: CEIR 7(8): 149 - Distribution should include Iran.

LIGHT TRAP COLLECTIONS

	Pseud. uni.	Agrotis. yps.	Prod. orn.	Perid. marg.	Feltia subt.	Heliothis zea	vires.	Trich. ni
TEXAS								
Beaumont 2/1-15	126	25	11		200			
Weslaco 2/1-15	45	54	13	7	187	237	3	486
Greenville 2/1-15	39	6		7	9			
LOUISIANA								
Baton Rouge 2/16-22	1	11		4	34			
Franklin 2/13-21		1			3			
FLORIDA								
Quincy 2/4		4			5			
Homestead 2/6					5			
Gainesville 2/20		1						
SOUTH CAROLINA (Counties)								
Oconee 2/9-15	6	2	5	1	2			
Charleston 2/2-10	96	105	21	6	36			

SUMMARY OF INSECT CONDITIONS - 1956

GEORGIA

Reported by W.C. Johnson

Highlights of Insect Conditions: A new pest, SPOTTED ALFALFA APHID, was first found in Henry County in late June, 1956. This insect has since been found in seventeen counties ranging from middle to north Georgia. Infestations have been light with the exception of plots of alfalfa at the experiment station at Calhoun. Beneficial insects have been instrumental in keeping the infestations down. PEPPER MAGGOT, present in Georgia since 1910 and usually associated with horsenettle attacked pimiento pepper for the first time. This insect was found infesting pimiento pepper in five counties. The first crop of pepper in Cherokee County was a complete loss to many growers. VEGETABLE WEEVIL, both larvae and adults, were very abundant on crucifers, pepper, tomato and other truck crops. The SOUTHERN GREEN STINK BUG and BROWN STINK BUG were a problem on tobacco and tomatoes. Some tomato growers lost as much as fifty percent of their crop. TOBACCO BUDWORM infestations were severe throughout the growing season. Good insecticidal practices were able to control this insect. CORN EARWORM infestations were very heavy. Some corn fields 85 to 90 percent infested; however, damage was not severe. This pest was also heavy on cotton though much easier to control than on corn. BOLL WEEVIL was a serious problem over the entire State. These were probably the heaviest infestations in a number of years. Some cotton growers complained of faulty insecticide applications and weather conditions at the time of application. Heavy infestations of SPIDER MITES on cotton caused concern over the State.

Cereal and Forage Insects: BILLBUGS (*Calendra* spp.) - Heavy infestations on corn. Some fields had 75 percent of the stand destroyed. *Calendra callosa* was heavy locally in Lowndes County. CORN EARWORM (*Heliothis zea*) was very heavy and attacked a variety of crops including grain sorghum, peanuts and tomatoes. Some fields of corn had 85 to 90 percent infestations, however, damage to the total crop was light. LESSER CORNSTALK BORER (*Elasmopalpus lignosellus*) infestations were moderate in early season on peanuts, but heavy in late season on soybeans and peas. FALL ARMYWORM (*Laphygma frugiperda*) infestations were moderate to heavy on corn and coastal Bermuda grass in south Georgia; heavy infestations on millet in middle Georgia and light infestations on soybeans and velvetbeans. SAND WIREWORM (*Horistonotus uhlerii*) was heavy locally on corn in Wayne County. Light infestations of GRASSWORMS (*Mocis* spp.) on coastal Bermuda. VELVETBEAN CATERPILLAR (*Anticarsia gemmatilis*) infestations were moderate to heavy on soybeans in several south Georgia counties. The RED-NECKED PEANUTWORM (*Stegasta bosqueella*) infestations ranged from light to heavy but no serious damage was noted. BROWN STINK BUG (*Euschistus servus*) and SOUTHERN GREEN STINK BUG (*Nezara viridula*) were found in moderate numbers on soybeans in some southern counties. GREENBUG (*Toxoptera graminum*) infestations were light to moderate and well distributed over the State on small grains. Light to heavy infestations of GREEN CLOVERWORM (*Plathypena scabra*) were found on alfalfa and crimson clover. PEA APHID (*Macrosiphum pisi*) infestations were heavy on crimson clover and alfalfa in middle and south Georgia. A CLOVER HEAD WEEVIL (*Hypera meles*) was found to be heavily infesting crimson clover. As many as 2400 larvae per 100 sweeps were observed in some fields. LESSER CLOVER LEAF WEEVIL (*Hypera nigrirostris*) infestations were moderate on crimson clover. CHINCH BUG (*Blissus leucopterus*) infestations were moderate. Infestations of THREE-CORNERED ALFALFA HOPPER (*Spissistilus festinus*) were in general light to moderate. THRIPS infestations were extremely heavy on peanuts in early and mid-season. SPOTTED ALFALFA APHID was first found in late June in Henry County. It has since been found in 16 additional counties. Infestations have been light, however, one heavy infestation occurred in Gordon County. Beneficial insects are keeping the infestations down. EUROPEAN CORN BORER (*Pyrausta nubilalis*) infestations were light. Bartow County was added to the list of infested counties which includes Chattooga, Floyd, Polk, Rabun, Walker and Whitfield.

Fruit and Nut Insects: (Reported by Oliver I. Snapp and W.C. Johnson). PLUM CURCULIO (Conotrachelus nenuphar) infestation was generally very light in 1956, and very much less than an average year throughout the season. The 1956 peach crop was perhaps the cleanest on record. Only one complaint of "wormy" peaches was reported to the Fort Valley Station in 1956. The hibernating populations of adults in the Georgia Peach Belt in the winter of 1956-57 is very light. The PEACH TREE BORER (Sanninoidea exitiosa) is now the principal insect problem in the Georgia Peach Belt. The infestation is alarming in some peach orchards in this area and has caused much damage. As many as 35 borers were removed from a single tree in one five-year-old commercial orchard. The increased infestation is believed to be due largely to the increased use of and dependence on trunk sprays which are less effective than fumigant-type treatments in heavily infested peach orchards in those latitudes where the insect has a long oviposition period. The absence of spraying for plum curculio control in 1955, when there was no peach crop to spray, may have contributed some to the increased peach tree borer infestation in Georgia. The LESSER PEACH TREE BORER (Synanthedon pictipes) infestation continues heavy in a number of orchards. This may also have been partially due to the absence of plum curculio control in 1955. CATFACING INSECTS were much more abundant than usual in peach orchards. STINK BUGS were observed feeding on small green peaches. PLANT BUG injured peaches were fairly common in some commercial peach orchards in 1956. SAN JOSE SCALE (Aspidiotus perniciosus) marks on peaches in packing sheds were much more prevalent in 1956 than usual, which indicates that the infestation is heavier than usual. ORIENTAL FRUIT MOTH (Grapholitha molesta) infestations in 6 commercial peach orchards near Fort Valley, was 1.6 percent of 13,632 peaches examined in 1956. This is representative of the infestation in this area which was lighter than that of an average year. SOUTHERN CORN ROOTWORM (Diabrotica undecimpunctata howardi) adults appeared on peach trees as early as February 20. FULLER ROSE BEETLE (Pantomorus godmani) were jarred from peach trees as early as February 20, 1956. FALL WEBWORM (Hyphantria cunea) infestations on pecan trees were heavy causing considerable defoliation. PECAN NUT CASEBEARER (Acrobasis caryae) infestations were noticeable but not serious in several southern counties. There were heavy infestations of BLACK PECAN APHID (Melanocallis caryaefoliae) in several counties in south Georgia.

Truck Crop Insects: VEGETABLE WEEVIL (Listroderes costirostris obliquus) infestations ranged from light to heavy on crucifers, green peas, pepper and tomatoes. This pest was general over the State. CABBAGE APHID (Brevicoryne brassicae) caused considerable damage to the cabbage crop. Many fields had heavy infestations. A MAGGOT (Hylemya sp. prob. brassicae) was a severe pest to spinach in Thomas County. Infestations of IMPORTED CABBAGEWORM (Pieris rapae) were heavy in Colquitt, Thomas, Lowndes and Coffee Counties. ONION THRIPS (Thrips tabaci) infestations were light to heavy on commercial onions in Tattnall and Coffee Counties. This insect was also heavy on tomato blossoms in Tattnall County. Infestations of COLORADO POTATO BEETLE (Leptinotarsa decemlineata) caused considerable damage to potatoes and tomatoes. MEXICAN BEAN BEETLE (Epilachna varivestis) infestations were heavy on beans. TOMATO FRUITWORM (Heliothis zea) infestations were in general moderate with some heavy infestations. TOMATO HORNWORM (Protoparce quinquemaculata) infestations were light to moderate on tomatoes. TOBACCO HORNWORM (Protoparce sexta) infestations were light on tomatoes and pimiento pepper. SOUTHERN GREEN STINK BUG and BROWN STINK BUG were serious pests of tomatoes. Several farmers lost 50 percent of the fruit near harvest. SQUASH BUG (Anasa tristis) infestations on cantaloupes were heavy locally in the Piedmont section of Georgia. Infestations of the PEPPER MAGGOT (Zonosomata electa) were generally light with the exception of Cherokee County which had severe infestations. Some farmers lost the entire first crop. This apparently was the first time this insect had attacked pepper, however, it has been in the State since 1910, and seems to prefer horsenettle. CABBAGE LOOPER (Trichoplusia ni) did considerable damage to turnips. LESSER CORNSTALK BORER infestations were not as serious as in dry years, but did quite a bit of damage to peas, beans and corn.

Tobacco Insects: TOBACCO BUDWORM (*Heliothis virescens*) infestations were extremely heavy. Infestations began shortly after planting and continued until harvest. Good insecticidal practices controlled this pest. HORNWORMS (*Protoparce* spp.) infestations were light to moderate in general, with few heavy infestations. GREEN PEACH APHID (*Myzus persicae*) infestations ranged from light to heavy, with most infestations being moderate. TOBACCO FLEA BEETLE (*Epitrix hirtipennis*) caused considerable damage to plant beds as well as tobacco in the field. CABBAGE LOOPER infestations were heavy in some fields in several counties, however, there were no serious outbreaks. SOUTHERN GREEN STINK BUG and BROWN STINK BUG infestations were heavy from the first week in May in the southernmost counties until the middle of June in the upper tobacco counties. VEGETABLE WEEVIL caused heavy damage to plant beds. The budworm was the most important pest of tobacco in 1956.

Cotton Insects: BOLL WEEVIL (*Anthonomus grandis*) infestations were extremely heavy throughout the State. This insect was the most injurious to cotton. Many fields had infestations ranging from 75 - 90 percent. BOLLWORM (*Heliothis zea*) infestations were moderate to heavy over the State. Control generally good. COTTON APHID (*Aphis gossypii*) infestations were moderate to heavy, with most infestations moderate. SPIDER MITES (*Tetranychus* spp.) were very heavy in many fields over the State. At least 70 percent of the cotton fields were infested to some degree and caused considerable concern. THRIPS (*Frankliniella* spp.) were generally light to moderate. Infestations of PALE-STRIPED FLEA BEETLE (*Systena blanda*) were light to moderate with a few exceptions. CUTWORMS were heavy on young cotton in several counties. Infestations of CABBAGE LOOPER was moderate to heavy in late season, but was limited to 4 counties. The three most important insects of cotton in their order of economic importance are boll weevil, bollworm and spider mites.

Forest and Ornamental Insects: PINE ENGRAVER (*Ips pini*) infestations were light during 1956. This is a much improved situation compared with 1955 outbreaks. Infestations of BLACK TURPENTINE BEETLE (*Dendroctonus terebrans*) were moderate to heavy, but no serious outbreaks occurred during 1956. The SOUTHERN PINE BEETLE (*Dendroctonus frontalis*) infestation was light and did not cause serious losses. The NANTUCKET PINE MOTH (*Ryacionia frustrana*) infestation was especially heavy in the Piedmont section. Infestations of the EASTERN TENT CATERPILLAR (*Malacosoma americanum*) were very heavy on wild cherry and general over the State. The CITRUS MEALYBUG (*Pseudococcus citri*) infestation was moderate in a number of greenhouses. Infestations of BAGWORMS (*Thyridopteryx ephemeraeformis*) ranged from light to heavy. The FALL WEBWORM (*Hyphantria cunea*) was extremely heavy on pecan and persimmon trees.

Insects Affecting Man and Animals: HOUSE FLY (*Musca domestica*) and several species of MOSQUITOES built up to heavy populations over the State. The DOG FLEA (*Ctenocephalides canis*) and CAT FLEA (*Ctenocephalides felis*) were unusually numerous during 1956. The HORN FLY (*Siphona irritans*) and STABLE FLY (*Stomoxys calcitrans*) were a problem where animals were not treated.

Beneficial Insects: Honey production in 1956 was a near record averaging 30 pounds per colony. This increase in colony production was the result of more favorable weather conditions in the fall of 1955, and the spring of 1956 for the development and growth of nectar producing plants. The weather conditions were ideal for HONEY BEE activity in the southern half of the State during the blooming period. This enabled the beekeepers to obtain above the average yields, while in the northern part of the State an excessive amount of rain during the blooming period hampered bee activity and prevented harvesting of a fall crop. However, for Georgia as a whole it was a good year. The number of colonies of honey bees in 1956 was estimated at 207,000, an increase of three percent over 1955. Very little damage to colonies from insecticides was reported in 1956. The disease situation is about the same as in 1955. Less than one percent of the colonies inspected showed foulbrood infections. LADY BEETLES and PARASITIC WASPS were very beneficial in reducing the numbers of the spotted alfalfa aphid, hornworms, aphids and other insects. Honey bees, bumble bees, andrenids and others were important pollinators of fruit, legume seed and vine crops.

SUMMARY OF INSECT CONDITIONS - 1956

WEST VIRGINIA

Reported by C. K. Dorsey *

Cereal and Forage Crop Insects: EUROPEAN CORN BORER (*Pyrausta nubilalis*) was one of the most serious corn pests in 1956 with a statewide average of 29.3 borers per 100 plants in counts from 100 fields. There were some particularly heavy infestations in Greenbrier and Braxton Counties. SOUTHERN CORN ROOTWORM (*Diabrotica undecimpunctata howardi*) caused as much damage as the European corn borer in Monongalia and Greenbrier Counties and was reported from all corn growing areas. CORN EARWORM (*Heliothis zea*) populations were more numerous than 1955 in Greenbrier and Randolph Counties. This pest caused considerable damage in the Eastern Panhandle section of the State. JAPANESE BEETLE (*Popillia japonica*) damaged corn in many areas, but particularly in Ohio, Wood and Webster Counties. NORTHERN CORN ROOTWORM (*Diabrotica longicornis*) was a destructive pest in localized areas in Hampshire County. A CORN SAP BEETLE (*Carpophilus* sp.) was especially numerous in Harrison, Kanawha and Cabell Counties on corn and was observed in the counties of Jefferson, Greenbrier and in many other areas of the State. Light infestations of CORN LEAF APHID (*Rhopalosiphum maidis*) were reported in eastern counties. MEADOW SPITTLEBUG (*Philaenus leucophthalmus*) was present in most sections of the State in economically significant numbers, averaging 1.85 adults per 10 sweeps on red clover and alfalfa. The extremely rainy season apparently had an adverse affect on spittlebugs. SPOTTED ALFALFA APHID was found for the first time in 1956. There was a light infestation in Monroe County and a probable infestation in Greenbrier County. PEA APHID (*Macrosiphum pisi*) was abundant on alfalfa in Greenbrier, Monroe, Mercer, Summers and Randolph Counties; it was also present in most alfalfa fields in other counties. CLOVER LEAFHOPPER (*Aceratagallia sanguinolenta*) was present in numbers in red clover fields in Barbour County. Y. CLOVER APHID (*Pterocallidium trifolii*) which was particularly abundant in red clover fields in Greenbrier County was observed statewide. CLOVER SEED CHALCID (*Bruchophagus gibbus*) was present on red clover and alfalfa statewide. CLOVER SEED WEEVIL (*Miccotrogus picirostris*) was collected in many red clover fields in the State, but was more numerous in Monongalia County. ALFALFA WEEVIL (*Hypera postica*) was the most destructive alfalfa pest in 1956. The 1956 survey showed that it had spread southward and westward into Mineral, Hampshire, Hardy and Morgan Counties. This weevil was generally distributed in Jefferson and Berkeley Counties in 1955. WIREWORMS (*Limonius* sp. and unidentified species) caused damage in many counties to corn.

Fruit Insects: APPLE APHID (*Aphis pomi*) was numerous and injurious in Jefferson County. There were a few injurious infestations of the EUROPEAN RED MITE (*Metatetranychus ulmi*) on apple; these populations were retarded early in the season by frost and cool weather. *Tetranychus* mites on apple built up particularly in Hampshire County but there were no reports of damage.

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*Collaborators were H. L. Hansen, W. H. Gillespie, Waldo Craig, E. O. Hampstead and county agents.

ROSY APPLE APHID (*Anuraphis roseus*) was numerous enough to require control measures in some apple orchards in the Eastern Panhandle. CODLING MOTH (*Carpocapsa pomonella*) control was, in general, good in the apple growing sections. APPLE MAGGOT (*Rhagoletis pomonella*) was observed in Webster, Jefferson and in Monongalia Counties. RED-BANDED LEAF ROLLER (*Argyrotaenia velutinana*) was reported as threatening in some locations in Hampshire County. UNSPOTTED TENTIFORM LEAF MINER (*Callisto geminatella*) was present in light infestations in apple orchards in the Eastern Panhandle. ROSE CHAFER (*Macrodactylus subspinosus*) adults were prevalent statewide and in some sections injured raspberry plantings and rose bushes. JAPANESE BEETLE adults fed upon grape leaves and berries to an injurious degree in some sections of Randolph and Hampshire Counties. A CUTWORM (*Feltia* sp.) destroyed about two-thirds of a new 1 acre strawberry planting in Greenbrier County. A NYMPHALID (*Polygonia interrogationis*) fed rather heavily on strawberry plants in southern West Virginia.

Vegetable Crop Insects: Light infestations of the PICKLEWORM (*Diaphania nitidalis*) were reported from various sections of the State. GARDEN SLUGS (*Limax* spp.) caused damage to young potato plants in various areas, but particularly in Monongalia County. POTATO LEAF HOPPER (*Empoasca fabae*) infestations light to moderate on potatoes throughout the State. POTATO FLEA BEETLE (*Epitrix cucumeris*) was statewide and caused moderate to heavy damage, especially in Randolph County. STRIPED FLEA BEETLE (*Phyllotreta striolata*) damaged cabbage in the Eastern Panhandle, especially in Jefferson County. CABBAGE LOOPER was prevalent, particularly injurious in Randolph County. IMPORTED CABBAGEWORM (*Pieris rapae*) incidence and distribution was similar to that of the cabbage looper. CABBAGE MAGGOT (*Hylemya brassicae*) caused limited damage to cabbage in many counties. CORN EARWORM (*Heliothis zea*) was injurious to sweetcorn in most sections of the State; infestations generally were not heavy. COLORADO POTATO BEETLE (*Leptinotarsa decemlineata*) was reported from most sections on potato, but damage was light. STRIPED CUCUMBER BEETLE (*Acalymma vittata*) was prevalent statewide and caused moderate to heavy damage to cucurbits; a similar condition existed with respect to the SPOTTED CUCUMBER BEETLE (*Diabrotica undecimpunctata howardi*). MEXICAN BEAN BEETLE (*Epilachna varivestis*) caused localized damage to beans, but was generally light. TWO-SPOTTED SPIDER MITE was statewide pest of beans, but damage was light. TOMATO HORNWORM (*Protoparce quinquemaculata*) was reported as a pest of tomatoes from a number of counties. TOMATO FRUITWORM (*Heliothis zea*) caused limited damage to several areas.

Forest Tree and Ornamental Insects: PINE TORTOISE SCALE (*Toumeyella numismaticum*) appeared in numerous heavy infestations over the State on Virginia pine, particularly in the Eastern Panhandle section. JUNIPER SCALE (*Diaspis carueli*) was commonly present on red cedar in several areas and particularly in Marion County. HEMLOCK SCALE (*Aspidiotus ithacae*) was reported moderately heavy on hemlock in Kanawha County. EUONYMUS SCALE (*Unaspis euonymi*) infestations were moderate to heavy throughout the State. GOLDEN OAK SCALE (*Asterolecanium variolosum*) appeared in scattered infestations on chestnut oak, especially in Greenbrier County. Heavy infestations of MAGNOLIA SCALE (*Neolecanium cornuparvum*) were found on *Magnolia* spp. in Kanawha and Hampshire Counties. ROSE SCALE (*Aulacaspis rosae*) was observed statewide, but occurred in light infestations. GLOOMY SCALE (*Chrysomphalus tenebricosus*) was common on various oaks in Kanawha County. A HICKORY APHID (*Longistigma caryae*) was observed in several locations in the State, but was particularly numerous on sycamore in Monongalia County. SPIREA APHID (*Aphis spiraecola*) infestations were distributed statewide and moderately heavy on *Spirea* spp.; ROSE APHID (*Macrosiphum rosae*) infestations presented a similar pattern on various rose species. RED-HEADED PINE SAWFLY (*Neodiprion lecontei*) caused damage to red, Scotch and Austrian pine plantings particularly in Randolph County. An unidentified sawfly was injurious to Virginia and yellow pines in limited areas in Kanawha County. FALL WEBWORM (*Hyphantria cunea*) populations were light to heavy in areas of the Eastern Panhandle feeding on redbud; they also fed on this host in Greenbrier County.

A LOOPER larva (*Phigalia titea*) was commonly present and feeding on oak and maple in Barbour County, but was not present in epidemic proportions as in 1955. FALL CANKERWORM (*Alsophila pometaria*) was injurious to oaks, hickories and sourwood in Barbour County, but not epidemically as in 1955. AILANTHUS WEBWORM (*Atteva aurea*) was present in moderately heavy populations in Berkeley County. They fed not only on the foliage of *Ailanthus*, but also on the tender bark of twigs. EASTERN TENT CATERPILLAR (*Malacosoma americanum*) infestations were observed in light to almost epidemic proportions in parts of Grant, Preston, Tucker, Barbour, Randolph and Hampshire Counties where they fed upon miscellaneous hardwood trees including wild cherry. A SAWFLY (*Cephalcia marginata*) was present in Randolph, Tucker and Barbour Counties where it fed and caused injury to Colorado blue and Norway spruces. This year was the first time *C. marginata* was reported from this State. A GREEN FRUITWORM(*Lithophane* sp.) fed with some injury to miscellaneous hardwoods in Kanawha County. BAGWORM (*Thyridopteryx ephemeraeformis*) infestations were prevalent statewide on arborvitae and cedar in damaging proportions. MIMOSA WEBWORM (*Homadaula albizziae*) was injurious to mimosa trees in Kanawha County. JUNE BEETLES (*Phyllophaga* spp. et al) were reported feeding on miscellaneous broad leaf trees in Cabell County. ASIATIC OAK WEEVIL (*Cyrtepistomus castaneus*) Small infestations feeding on oaks in Berkeley and in Kanawha Counties where they were more numerous. PINE SPITTLEBUG (*Aphrophora parallela*) was observed in scattered infestations over the State, but particularly in Preston County on red and Austrian pine. SYCAMORE LACE BUG (*Corythucha ciliata*) was especially numerous on sycamore in Berkeley and Jefferson Counties; *C. arcuata* infestations were heavy on oaks in Boone, Madison and Kanawha Counties. AZALEA LACE BUG(*Stephanitis pyrioides*) was reported as being present on azaleas in moderate, scattered infestations. BOXWOOD LEAF MINER (*Monarthropalpus buxi*) infestations were statewide, but were especially heavy in areas of the eastern panhandle. LOCUST LEAF MINER (*Chalepus dorsalis*) infestations were common on black locust in moderate to heavy concentrations especially in the northern half of the State. TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*) infestations were observed on hemlock in Kanawha County where serious injury was caused. They were reported from red cedar in Monongalia County. An unidentified mite was reported as causing serious damage to honey locust in Kanawha County. DOGWOOD TWIG BORER (*Oberea tripunctata*) damage was more numerous this year particularly in Monongalia and Preston Counties. COLUMBIAN TIMBER BEETLE (*Corythylus columbianus*) is statewide in distribution and continues to be one of the most serious insect pests of white oak timber. The WHITE PINE WEEVIL (*Pissodes strobi*) caused heavy damage to white pines in Hampshire County where 70 percent of the trees in one plantation were destroyed.

Insects Affecting Man and Animals: CATTLE GRUBS (*Hypoderma* spp.) continue to be some of the worst cattle pests in the State. Infestations were not as heavy as in 1955 in most sections. An unidentified grub was found in squirrels in Webster and Nicholas Counties; one hunter reported that one out of every 8 squirrels he killed was infested. HORN FLIES(*Siphona irritans*) was present statewide in moderate to heavy infestations. AMERICAN DOG TICK (*Dermacentor variabilis*) was reported from most sections of the State as a pest on dogs, livestock and various other animals. This pest was particularly numerous in Wirt County and in counties of the Eastern Panhandle. The HORSE BOT FLY (*Gasterophilus intestinalis*) was reported as being present in several sections of the State by veterinarians; infestations were light. SHEEP KED (*Melophagus ovinus*) infestations were light to moderate in some counties. CHIGGER (*Eutrombicula alfreddugesi*) populations were heavy in Berkeley, Morgan, and Jefferson Counties. Reports of BLACK WIDOW SPIDER (*Latrodectus mactans*) were statewide and though their numbers were great in some sections only 3 authentic cases of spider bite on man were recorded. HOG LOUSE (*Haematopinus suis*) was observed in several sections, but infestations were light. This condition was true also for SHEEP BITING LOUSE (*Bovicola ovis*). Several light infestations of CATTLE BITING LOUSE (*Bovicola bovis*) were reported by veterinarians, as were several infestations of DOG SUCKING LOUSE (*Linognathus setosus*). CHICKEN BODY LOUSE (*Menacanthus stramineus*) and CHICKEN MITE (*Dermanyssus gallinae*) were present in small numbers in several localities on chickens. CAT FLEA (*Ctenocephalides felis*) and DOG FLEA (*C. canis*) populations were generally light over the State. HORSE FLIES (Tabanus spp.) and DEER FLIES (Chrysops spp.) were numerous in localized areas and caused annoyance to man and animals. MOSQUITOES (Culex spp., Aedes spp. and Anopheles spp.) were pests in some sections, but in general populations were not great. WOOL MAGGOTS (Phaenicia sp. and Phormia sp.) were reported from a number of counties, but infestations were not heavy.

Household and Wooden Structure Insects: HOUSE FLY (Musca domestica) was a pest around dwellings and barns; slightly heavier populations than in 1955 were noticeable in most sections. COCKROACHES (Periplaneta americana, Blattella germanica and Blatta orientalis) maintained usual populations. More reports concerning CLOTHES MOTHS (Tinea pellionella and Tineola bisselliella) were received this year than during 1955. SILVERFISH (Lepisma saccharina) was numerous in certain sections of the State. EASTERN SUBTERRANEAN TERMITE (Reticulitermes flavipes) caused about the usual amount of damage. A school gymnasium floor in Roane County was so badly damaged that it had to be entirely replaced. OLD HOUSE BORER (Hylotrupes bajalus) infestations were more numerous in 1956 and caused damage to structural tembers of newly-built houses in several counties. SOUTHERN PINE SAWYER (Monochamus titillator) damaged the studding of a new house in Wood County.

Stored Products Insects: There were no new insect pests of stored products observed in the State and the results of the KHAPRA BEETLE survey were negative. The listed pests were most commonly encountered occurring statewide and they were present in light to medium infestations mainly in granaries, feed stores and mills. These insects include: confused flour beetle, mealworms (Tenebrio spp.), rice weevil, granary weevil, saw-toothed grain beetle, red flour beetle, flat grain beetle, cadelle, white-marked spider beetle, black carpet beetle, cigarette beetle, drug-store beetle, Angoumois grain moth, Indian meal moth, Mediterranean flour moth, meal moth, booklice (Liposcelis divinatorius and Trogium pulsatorium), silverfish, and grain mite.

Miscellaneous Insects: BOXELDER BUG (Leptocoris trivittatus) was reported as a nuisance in various sections of the State collecting on or adjacent to dwellings in the fall. A RHINOCEROS BEETLE (Dynastes tityus) was so numerous in areas of Kanawha County that residents complained about the invasion of their houses through chimneys.

SUMMARY OF INSECT CONDITIONS - 1956

IOWA

Reported by H. M. Harris and staff

Highlights: This past year was a drought year in Iowa, during which entomological activity was highlighted by the widespread abundance of grasshoppers and the necessity for a state sponsored emergency control program. This emergency measure sparked an active and general treatment program on the part of farmers. There was an enormous increase in the number of farmer owned sprayers, particularly in southern Iowa, and more than 1,500,000 acres were treated for grasshopper control.

Cereal and Forage Insects: The EUROPEAN CORN BORER (Pyrausta nubilalis) did not reach the damaging potential earlier anticipated. Drought conditions delayed pupation and emergence of moths and resulted in a markedly lessened first brood egg count as compared with 1955. Seasonal development: first brood - earliest observed pupation, May 17; earliest moths, May 28; first eggs, June 7; earliest hatch, June 12; second brood - first pupation, July 10; first moths, July 22; first eggs, July 25.

A survey of 44 counties made the week of July 10-17 showed infestations as compared with 1955 as follows:

	1956		1955	
Areas	Percent plants infested	Borers per 100 plants	Percent plants infested	Borers per 100 plants
Northern	41	79	26	60
Central	80	229	35	66
Southern	21	25	47	135

An estimated 716,000 acres were treated for borer control in 1956 as compared with 893,000 acres in 1955. Use of insecticidal control resulted in an average increase of 7 bushels per acre or a total estimated increase production of 6.25 million bushels. GRASSHOPPERS were dominant among insect pests in 1956 with populations in some areas even exceeding those of the drought-stricken, grasshopper years of the mid-thirties. Hatching began early and survival was high. In some severely sun-baked areas repeated waves of hatching occurred following the few scattered showers, with newly-hatched *Melanoplus differentialis* being observed as late as July 17. First adults of *M. mexicanus* were observed in south Iowa on May 26, a new early record. A population survey of adult grasshoppers made in late summer and an egg survey in late fall showed the infestation continuing high over the State, with outbreak potentials in some areas. CHINCH BUGS (*Blissus leucopterus*)- Although threatening populations entered hibernation in the fall of 1955 and survival was high, the anticipated trouble did not materialize in 1956 and only a few minor migrations occurred in four counties in south central Iowa. FALSE CHINCH BUGS (*Nysius* sp.) were exceedingly abundant throughout the drought-stricken counties. SOIL INSECTS were less damaging in 1956 than in years of more adequate subsoil moisture. Approximately one million acres were treated with insecticides for soil insects, with materials being applied broadcast on about one-third of the acreage, and applied as row treatment on the remainder. *Prionus* sp. destroyed 5 acres of bottomland corn in Muscatine County and portions of a 30-acre field in Plymouth County. SPOTTED ALFALFA APHID repeated observations throughout the summer failed to disclose this insect in Iowa until the first week of September. An unusually long, hot autumn gave opportunity for population build-up and spread and by early November the pest was known to occur over the entire western half of the State, across the southern tier of counties to the Mississippi River and northward in the eastern river counties to Clayton and Dubuque. Surveys were not made in the northeastern section, other than the counties named, but it was evident that the insect for all practical purposes was scattered over the entire State. Populations were low even in the earliest infested fields and no damage occurred. SWEETCLOVER WEEVIL (*Sitona cylindricollis*) populations were low in 1956. SPITTLEBUG recorded from Tama County, the westernmost occurrence in Iowa. PEA APHIDS, LEAFHOPPERS and CLOVER LEAF WEEVIL (*Hypera punctata*) were in normal numbers, with the PEA APHID (*Macrosiphum pisi*) increasing to heavy populations in alfalfa and in north Iowa in late fall.

Fruit and Tree Insects: APPLE MAGGOTS were more abundant in northern Iowa than in recent years. The STRAWBERRY WEEVIL (*Anthonomus signatus*) was damaging in some local plantings and STRAWBERRY LEAF ROLLER *Ancylis comptana fragariae*) was common and in some areas severe. A LONGHORN WEEVIL (*Calomycterus setarius*) was observed at DeWitt, Dubuque, Cedar Rapids, Iowa City, Ames and Hamburg. BOXELDER BUGS were more abundant over the State than in any year since 1950. PERIODICAL CICADA (*Magicicada septendecim*) (Brood XIII) made its anticipated appearance in eastern Iowa. CLOVER MITES and SPIDER MITES were more numerous than in more normal years, with the former in great abundance. SMALLER EUROPEAN ELM BARK BEETLE (*Scolytus multistriatus*) was present in weakened and dead elms in most areas of the State.

Livestock Insects: STABLE FLIES were probably less abundant than in the previous year, with other livestock pests about as abundant as in more normal years. LICE were present in damaging populations in a few flocks of turkeys. SHEEP SCAB MITE (*Psoroptes equi ovis*) was a notable occurrence in several flocks in late fall.

SUMMARY OF INSECT CONDITIONS - 1956

MICHIGAN

Reported by Ray Hutson

The most significant fact about the 1956 insect situation in Michigan was the comparative freedom from outbreak conditions on crops. Weather, cold and wet in early summer and hot and dry in late summer, was possibly the most important single factor. Shifts in crop production, as for example the disappearance of the smaller plantings of potatoes with consequently less POTATO LEAFHOPPER trouble, also influenced the picture.

As could be expected from the above statement, Michigan growers had trouble from the SEED-CORN MAGGOT (*Hylemya cilicrura*). Difficulty with this insect, possibly because of corn seed treatment, was concentrated on field beans and onions. Losses were medium to severe on these crops. The picture on onions was confused because *Hylemya antiqua*, the ONION MAGGOT, was present and is traditionally blamed for any and all maggot damage on onions. CODLING MOTH (*Carpocapsa pomonella*) and ORIENTAL FRUIT MOTH (*Grapholitha molesta*) because of the cooler weather emerged in peaks and, because of the excellence of available control materials, were satisfactorily controlled. Probably the most noticeable increase in insect inquiries was in the case of EUROPEAN PINE SHOOT MOTH (*Rhyacionia buoliana*) . This pest of pine plantings has increased with the popularity of Christmas tree plantings and constitutes today a major problem in the production of symmetrical trees. CARPET BEETLES (largely *Attagenus piceus*) have for 25 years led the list of insect inquiries. They were of average incidence. The most astonishing thing about carpet beetles is the confusion of them and their work with clothes moths and their work. POWDER POST BEETLE (mostly *Lyctus*) infestations continue to increase, probably because the lumber now available is more suitable for them. Another reason may be the awareness of better control measures for insects. Wireworms, white grubs, and soil infesting insects as well as nematodes were the subjects of many inquiries. Probabilities are that these were occasioned by reports of successful chemical treatment. At any rate much material was applied and generally successful results attained. MEXICAN BEAN BEETLE (*Epilachna varivestis*) after twenty five years or so as a pest of snap and lima beans, has finally developed into a pest of field beans. Field bean growers are just now finding it necessary to plan spraying operations against it.

A leaf roller complex on tree and bramble fruits continued to cause concern to fruit growers. RED-BANDED LEAF ROLLER(*Argyrotaenia velutinana*) was most common, but on brambles OBLIQUE-BANDED LEAF ROLLER (*Archips rosaceana*) and STRAWBERRY LEAF ROLLER (*Ancylis comptana fragariae*) were common enough to confuse the control measures in view of the short time between blossom and harvest and the necessity of meeting residue requirements. The mite situation on fruit plants was confused. June 1, strawberry plantings in many parts of the State showed high populations of TWO-SPOTTED SPIDER MITE (*Tetranychus telarius*). For some reason these failed to increase materially whether treated or untreated. Possibly the early season rains were responsible, but in any case populations of mites on strawberries did not become troublesome during 1956. On the other hand, *T. telarius* and EUROPEAN RED MITE (*Metatetranychus ulmi*) built up on tree fruits in July and August to a point requiring control. Losses were negligible, but many trees--especially plums--show a heavy population of overwintering eggs of European red mite.